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**AMENDMENTS TO THE CLAIMS**

**Listing of claims:**

1. (Withdrawn): A method of coupling a photonic component with a waveguide comprising:  
    positioning the photonic component against the waveguide; and  
    aligning the photonic component with markings that have been lithographically-placed on a surface of the waveguide.
2. (Withdrawn): The method of claim 1, wherein the photonic component is a fiber optic bundle.
3. (Withdrawn): The method of claim 2 further comprising:  
    aligning outermost optical fibers of the fiber optic bundle with the markings on the surface of the waveguide.
4. (Withdrawn): The method of claim 3 further comprising:  
    bonding the fiber optic bundle to the waveguide.
5. (Withdrawn): The method of claim 1, wherein the photonic component is a second waveguide.
6. (Withdrawn): A method of aligning a fiber optic bundle with a waveguide comprising:  
    using a lithographic process to place a marking on a surface of the waveguide, the marking indicative of an optical channel within the waveguide;  
    positioning the fiber optic bundle against the waveguide based on the marking;  
    and  
    adjusting the fiber optic bundle until alignment is achieved.

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7. (Withdrawn): The method of claim 6 further comprising:  
using the lithographic process to place a second marking on the surface of the waveguide, the second marking indicative of a second optical channel within the waveguide, wherein the positioning of the fiber optic bundle against the waveguide is also based on the second marking.
8. (Withdrawn): The method of claim 7, wherein the lithographic process uses an etch to place the first and second markings.
9. (Withdrawn): The method of claim 7, wherein the lithographic process uses an ink to place the first and second markings.
10. (Withdrawn): The method of claim 7, wherein the lithographic process deposits a layer of material that is distinguishable by the human eye to place the first and second markings.
11. (Withdrawn): The method of claim 7, wherein the marking is directly above the optical channel.
12. (Withdrawn): The method of claim 7, wherein the marking is lateral to the optical channel.
13. (Withdrawn): The method of claim 7, wherein the positioning of the fiber optic bundle against the waveguide is also based on alignment markings on the fiber optic bundle.
14. (Withdrawn): The method of claim 13 further comprising:  
applying an epoxy between the fiber optic bundle and the waveguide.
15. (Currently amended): A waveguide comprising:  
a first optical channel within the waveguide; and

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a first lithographically-defined marking on a surface of the waveguide indicative of the first optical channel within the waveguide;

wherein the first lithographically-defined marking is operative to assist in insertion of an optical fiber within the first optical channel.

16. (Currently amended): The waveguide of claim 15 further comprising:

a second optical channel within the waveguide; and

a second lithographically-defined marking on the surface of the waveguide indicative of the second optical channel within the waveguide;

wherein the second lithographically-defined marking is operative to assist in insertion of an optical fiber within the second optical channel.

17. (Original): The waveguide of claim 16, wherein the first lithographically defined marking and the second lithographically-defined marking are directly above the first optical channel and the second optical channel, respectively.

18. (Original): The waveguide of claim 17, wherein the first lithographically-defined marking and the second lithographically-defined marking are at an edge of the waveguide.

19. (Original): The waveguide of claim 18, wherein the waveguide comprises glass.

20. (Original): The waveguide of claim 18, wherein the waveguide comprises silicon.

21. (Original): The waveguide of claim 18, wherein the first optical channel and the second optical channel are on opposite sides of the waveguide.